Why is the speed of light constant through space?

In order to answer this question we must first get a handle on the word ‘space’, a word that has stumped researchers for the last 10,000 years. From the ancient Greeks to the 21st Century, theorists have persistently treated space as a physical object. Of course, if space is made of particles, it does matter whether it resembles a sandbox, a lake, or a gas. If light consists of a flow of particles, it would encounter different levels of resistance when traversing each of these mediums.

Here we define space a little differently…

space : that which doesn’t have shape

(synonyms: vacuum, nothing, nothingness, void)

This definition contrasts with that of object…

object: that which has shape

(synonyms: thing, anything, something, body, entity, medium)

Space and object are antonyms. We can now use these terms consistently in a dissertation.

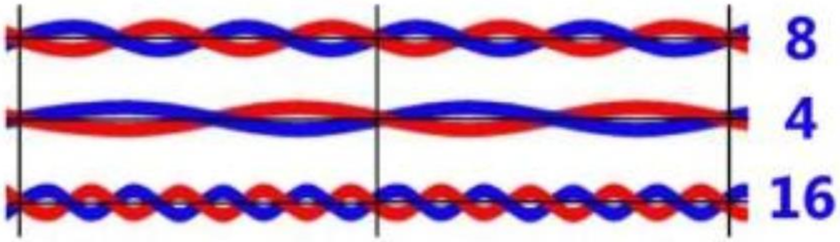
The first issue that becomes patently clear is that light is unaffected by space if space is nothing. Therefore, anyone suggesting that the vacuum affects the speed of light has no case whatsoever.

Similarly, enthusiasts with little training in Physics unnecessarily introduce subjective observers into this picture. They attempt to divert the speed of light to an issue of measurement and opinion. The question you should ask yourself is whether light was traveling at different speeds before life arose on Earth. Does the universal speed of light depend on the frame of reference?

And as for the constancy of light, we only have to look at the wave equation ($c = f\,\lambda$). This equation states that when we increase the frequency, wavelength goes down and vice versa. The speed of light (c = 300,000 km/s) always remains constant.

You can model this equation with a twined, two-strand rope. Take a 1 meter length of rope. Count the number of links. Let’s say you counted 10 links. Now torque it several times. The links should become shorter (i.e., shorter wavelength) and you should have more links (i.e., more ‘frequency’). The constancy of the speed of light can readily be explained if rather than mimicking it with one-way particles or 2D transverse waves we simulate it with torsions ‘propagating’ along a rope.

$c = f\lambda$ is the equation of a rope!



# of links is inversely proportional to linklength